



## MHK5 | SSI ABSOLUTE MULTI-TURN ENCODER



### Features

MHK510 encoder Ø58mm with SSI interface:

- Robust and compact conception
- Ø 15 mm blind shaft, reduction hubs available
- Precision ball bearings with sealing flange
- High temperatures performances -40°C ... +85°C
- Code disc made of unbreakable and durable plastic
- Mechanical memorisation of the number of turns by gears
- SSI transmission, GRAY code
- Resolution : 13 bits = 8192 steps/turn
- Number of turns : 12 bits = 4096 turns
- Polarity inversion and short circuit protection
- Highly integrated circuit in SMD-technology



### SPECIFICATIONS

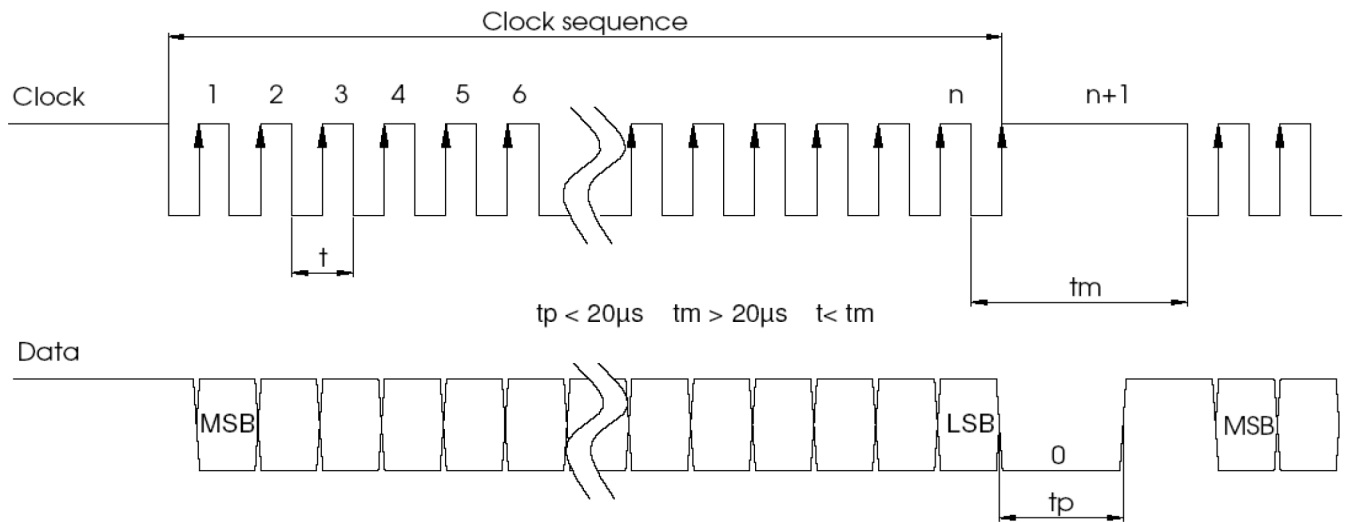
<b>Material (Stainless Steel Option)</b>	<b>Cover:</b> Aluminum <b>Body:</b> Aluminum <b>Shaft:</b> Stainless Steel
<b>Max. Shaft Loading</b>	<b>Axial:</b> 40 N <b>Radial:</b> 110 N
<b>Shaft Inertia</b>	≤ 30 g.cm <sup>2</sup>
<b>Torque</b>	≤ 3 N.cm
<b>RPM (continuous operation)</b>	6,000 RPM
<b>Shock (EN 60068-2-27)</b>	≤ 100 g (halfsinus, 6 ms)
<b>Shock (EN 60028-2-29)</b>	≤ 10 g (half-sinus, 16ms)
<b>Vibration (EN 60068-2-6)</b>	≤ 10 g (10Hz... 1 000Hz)
<b>Weight (Aluminum Version)</b>	600 g
<b>Operating Temperature</b>	- 40 ... + 85°C
<b>Storage Temperature</b>	- 40 ... + 85°C
<b>Humidity</b>	98 % without condensation
<b>Protection (EN 60529)</b>	IP65

## Electrical

<b>Clock Input</b>	via opto-coupleur
<b>Data Output</b>	line - driver according RS422
<b>Clock Frequency</b>	100kHz – 2MHz
<b>Accuracy</b>	+ ½ LSB
<b>Supply Voltage</b>	4,75 – 30Vdc
<b>Cycle Time (Reset)</b>	< 150 µs
<b>Turn On Time</b>	< 1 s
<b>Power Consumption</b>	max 1W
<b>Electrical Lifetime</b>	> 10 <sup>5</sup> h
<b>EMC</b>	EN 61000-6-4 EN 61000-6-2



## SSI TRANSMISSION



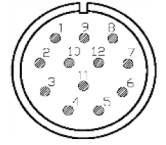
<b>Driver</b>	Driver meets EIA standard RS422 ; transmission rates up to 10 Mbits/s
<b>Transfer</b>	Transfert distance up to 1200m
<b>Transmission</b>	Balanced transmission provides high noise immunity
<b>Pair Lines</b>	Shielded and twisted pair lines are essential to attain extremely high noise immunity



## ELECTRICAL CONNECTION ON M23 CONNECTOR, 12 PINOUTS

Type	CLK -	CLK +	DATA +	DATA -	DIRECTION	Reset	+ Ub 4,75- 30Vdc	GND
S1	1	2	3	4	8	9	11	12

Pinning Encoder  
(Male)



## INPUTS

Encoder counting direction for clockwise rotation (looking onto the shaft) - DIRECTION	
0 (input = NC or GND)	Up counting
1 (input = +Ub or $\geq 4,5V$ )	Down counting

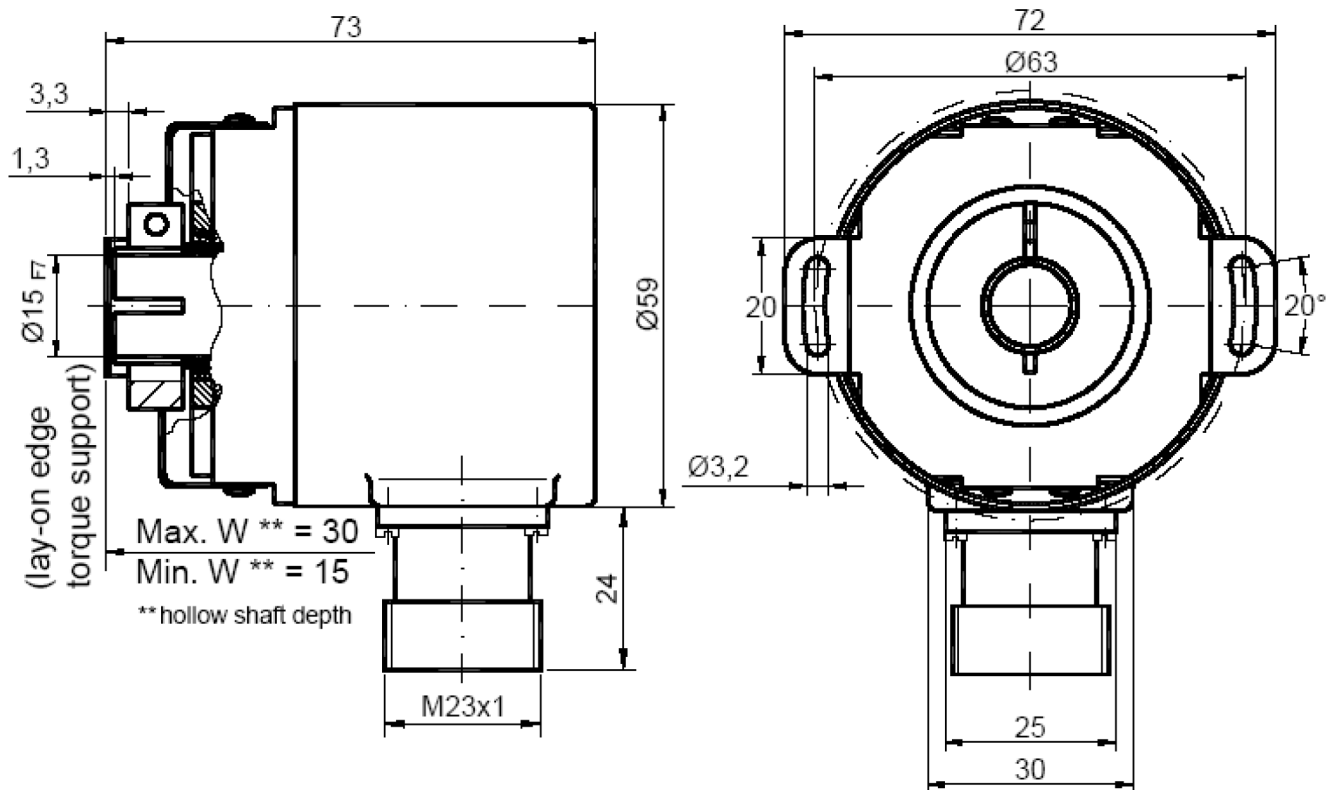
RESET of the position	
0 (input = NC or GND)	Position
1 (input = +Ub or $\geq 4,5V$ )	Reset on down level (100ms)



# DIMENSIONS

Dimensions in mm

## MHK515-SSIR (radial 12 pinouts M23)



Allowed Shaft Movements	Axial	Radial
Static	$\pm 0.3$ mm	$\pm 0.5$ mm
Dynamic	$\pm 0.1$ mm	$\pm 0.2$ mm

Shaft diameter can be reduced to 12mm, 10mm or 8mm by reduction ring (by inserting them into the hollow shaft)